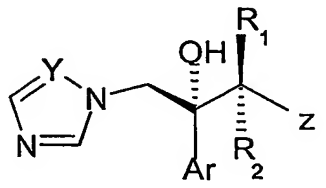
We Claim:

1. A compound having the structure of Formula I



Formula I

and its pharmaceutically acceptable salts, esters, enantiomers, diastereomers, N-oxides, prodrugs, metabolites, polymorphs and pharmaceutically acceptable solvates,

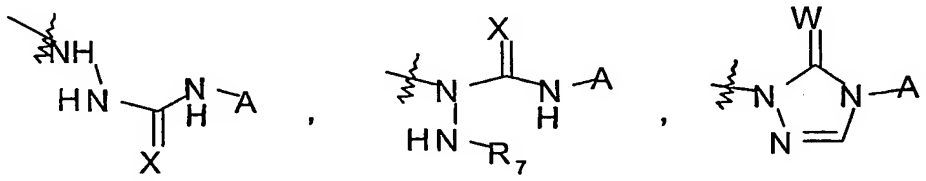
wherein

Ar is phenyl or a substituted phenyl having one to three substituents independently selected from halogen (chlorine, fluorine, bromine, iodine), nitro, cyano, lower(C_{1-4})alkyl, lower(C_{1-4})alkoxy, perhalo lower(C_{1-4})alkyl or perhalo lower(C_{1-4})alkoxy five to seven membered heterocyclic ring containing one to four heteroatoms selected from the group consisting of oxygen, nitrogen and sulphur;

R_1 and R_2 are independently selected from the group consisting of hydrogen, straight chain or branched alkyl groups having 1 to 3 carbon atoms selected from the group consisting of methyl, ethyl, propyl and isopropyl;

Y is CH or N;

Z is selected from the group consisting of



wherein

X is selected from S, O, CH-NO_2, and N-CN;

W is selected from S, CH-NO_2, and N-CN;

A is hydrogen, unsubstituted or substituted lower (C_{1-10}) alkyl, said substituents being halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4}) alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4}) perhaloalkoxy; optionally substituted naphthyl; unsubstituted or substituted aromatic or non aromatic 5-6 membered rings with or without one to four heteroatoms independently selected from the group consisting of oxygen, nitrogen and sulphur, said substituents independently selected from one or more groups such as halogen (fluorine, chlorine, bromine, iodine), nitro, cyano, hydroxy, lower (C_{1-4}) alkyl, lower(C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4}) perhaloalkoxy, BR_3, substituted or unsubstituted five or six membered heterocyclic ring systems containing one to four heteroatoms selected from the group consisting of oxygen, nitrogen and sulphur, said heterocycylic substituents being (C_1-C_8)alkanoyl, lower (C_1-C_4)alkyl, lower (C_1-C_4)alkoxy carbonyl, N lower (C_1-C_4)alkylaminocarbonyl, N,N-dilower(C_1-C_4)alkylaminocarbonyl, N-lower (C_1-C_4)alkylaminothiocarbonyl, N,N-di(lower alkyl)(C_1-C_4)aminothiocarbonyl, N-lower (C_1-C_4)alkyl sulphonyl, phenyl substituted lower (C_1-C_4)alkyl sulphonyl, N-lower (C_1-C_4)alkyl amino, N,N-di(lower alkyl)(C_1-C_4)amino, unsubstituted or substituted phenyl, said substituents being halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4}) perhaloalkoxy, nitro, cyano, amino, $N(R_4)_2$, 5-6 membered heterocyclic rings, the preferred heterocycles being 1,3-imidazolyl; 1,2,4 triazolyl; $-CHR_5R_6$;

wherein

R_3 is a five or six membered aromatic or non aromatic ring with or without heteroatoms selected from the group consisting of oxygen, nitrogen and sulphur;

B is independently selected from $(CH_2)_m$, -S, $-O(CH_2)_m$, $-S(CH_2)_m$;

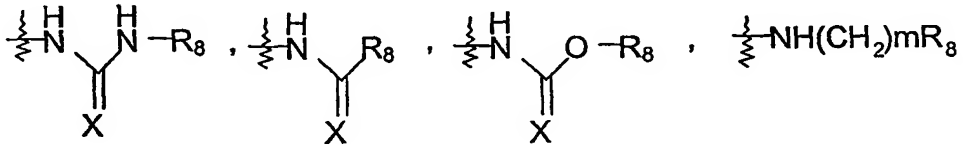
m is an integer from 1 to 4;

R_4 is hydrogen, unsubstituted or substituted lower (C_{1-4})alkyl;

R_5 is –COQ, where Q=OR_4, $-N(R_4)_2$;

R_6 is independently selected from hydrogen, straight chain or branched alkyl with or without substituents, the said substituents being halogen (e.g. fluorine, chlorine, bromine or iodine), hydroxy, lower (C_{1-4})alkyl, lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4; phenyl or phenyl substituted with halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4; heterocyclic rings or substituted heterocyclic rings with heteroatoms selected from oxygen, nitrogen and sulphur, substituents on heterocyclic rings are independently selected from halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkyl ,lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4; phenyl or phenyl substituted with halogen (e.g. fluorine, chlorine, bromine or iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy or SR_4; the preferred heterocyclic rings are imidazole and indole;

R_7 is H or selected from the group consisting of



wherein

R_8 is independently selected from hydrogen, unsubstituted or substituted lower (C_{1-4}) alkyl, aralkyl, aromatic or non aromatic 5-6 membered rings with or without one to four heteroatoms selected independently from the group consisting of oxygen, nitrogen or sulphur.

2. A compound selected from the group consisting of:

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4-fluorophenyl]thiosemicarbazide

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[2,4-difluorophenyl]thiosemicarbazide

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4-trifluoromethylphenyl]thiosemicarbazide

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[2,4-dimethoxyphenyl]thiosemicarbazide

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4(tetrahydropyranyloxy)phenyl] thiosemicarbazide

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4-trifluoromethoxyphenyl]thiosemicarbazide

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4-(2,2,3,3-tetrafluoropropoxy)phenyl] thiosemicarbazide

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4-nitrophenyl]thiosemicarbazide

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4-([1,2,3,4-tetrazol-1-yl])phenyl] thiosemicarbazide

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4-(1,2,3,4-tetrazol-2-yl)phenyl] thiosemicarbazide

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4-cyanophenyl]thiosemicarbazide

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4-[4-chlorophenyl]piperizin-1-yl]phenyl] thiosemicarbazide

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1H-1,2,4-triazol-1-yl)propyl]-4[4-(N,N-dimethylamino)phenyl]thiosemicarbazide

1-*t*-Butoxycarbonyl-2-(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-napth-1-yl thiosemicarbazide

1-*t*-Butoxycarbonyl-2-(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-octylthiosemicarbazide

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-*t*-butyl thiosemicarbazide

Methyl-2-[1-*t*-butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]thiosemicarbazid-4-yl]acetate

Methyl-2-phenyl-2-[1-*t*-butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]thiosemicarbazid-4-yl]acetate

Methyl-2-[*t*-butyldimethylsilyloxymethyl]-2-[1-*t*-butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl] thiosemicarbazid-4-yl]acetate

Methyl-2-[methylthioethyl]-2-[1-*t*-butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl] thiosemicarbazid-4-yl]acetate

Methyl-2-benzyl-2-[1-*t*-butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]thiosemicarbazid-4-yl]acetate

Methyl-2-*iso*butyl-2-[1-*t*-butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]thiosemicarbazid-4-yl]acetate

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[2-furanmethyl]thiosemicarbazide

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[2-thiophenmethyl]thiosemicarbazide

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4-chlorophenyl]semicarbazide

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4(2,2,3,3-tetrafluoropropoxy)phenyl] semicarbazide

1-*t*-Butoxycarbonyl-2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[2,4-dimethoxyphenyl]semicarbazide

2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4-chlorophenyl]semicarbazide

2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-phenyl thiosemicarbazide

2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4-hydroxyphenyl] thiosemicarbazide

2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4-(2,2,3,3-tetrafluoropropoxy)phenyl]thiosemicarbazide

2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[2,4-dimethoxyphenyl] thiosemicarbazide

2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4-trifluoromethylphenyl]thiosemicarbazide

2-[(1R,2R)-2-(2,4-Difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4-trifluoromethoxyphenyl]thiosemicarbazide

2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[2-furanmethyl]thiosemicarbazide

2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[2-thiophenmethyl]thiosemicarbazide

2-[(1R,2R)-2-(2,4-Difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[3-chloropyridin-6-yl] thiosemicarbazide

2-[(1R,2R)-2-(2,4-Difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[5-chloro-3-trifluromethyl-pyridin-6-yl]thiosemicarbazide

2-[(1R,2R)-2-(2,4-Difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[quinolin-3-yl] thiosemicarbazide

2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1,2,4-triazol-1-yl)propyl]-4-[4-(1,2,3,4-tetrazol-1-yl)phenyl]-(2*H*,4*H*)-1,2,4-triazol-3-thione

2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1,2,4-triazol-1-yl)propyl]-4-[4-hydroxyphenyl]-(2*H*,4*H*)-1,2,4-triazol-3-thione

2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1,2,4-triazol-1-yl)propyl]-4-[4-(2,2,3,3-tetrafluoropropoxy)phenyl]-(2*H*,4*H*)-1,2,4-triazol-3-thione

2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1,2,4-triazol-1-yl)propyl]-4-[4-nitrophenyl]-(2*H*,4*H*)-1,2,4-triazol-3-thione

2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1,2,4-triazol-1-yl)propyl]-4[4-(1,2,3,4-tetrazol-2-yl))phenyl]-(2*H*,4*H*)-1,2,4-triazol-3-thione

2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1,2,4-triazol-1-yl)propyl]-4-[4-trifluoromethylphenyl]-(2*H*,4*H*)-1,2,4-triazol-3-thione

2-[(1R,2R)-2-(2,4-Difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[4-trifluoromethoxyphenyl]-(2*H*,4*H*)-1,2,4-triazol-3-thione

2-[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1,2,4-triazol-1-yl)propyl]-4-[4-cyanophenyl](2*H*,4*H*)-1,2,4-triazol-3-thione

Methyl-2-[[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-(2*H*,4*H*)-1,2,4-triazol-3-thion-4-yl]acetate

Methyl-2-hydroxymethyl-2-[[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triaolyl)propyl]-(2*H*,4*H*)-1,2,4-triazol-3-thion-4-yl]acetate

Methyl-2-phenyl-2-[[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triaolyl)propyl]-(2*H*,4*H*)-1,2,4-triazol-3-thion-4-yl]acetate

Methyl-2-isobutyl-2-[[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triaolyl)propyl]-(2*H*,4*H*)-1,2,4-triazol-3-thion-4-yl]acetate

Methyl-2-methylthioethyl-2-[[(1R,2R)-2-(2,4-difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triaolyl)propyl]-(2*H*,4*H*)-1,2,4-triazol-3-thion-4-yl]acetate

2-[(1R,2R)-2-(2,4-Difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[2-furanmethyl]-(2*H*,4*H*)-1,2,4-triazol-3-thione

2-[(1R,2R)-2-(2,4-Difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[quinolin-3-yl]-(2*H*,4*H*)-1,2,4-triazol-3-thione

2-[(1R,2R)-2-(2,4-Difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[3-chloropyridin-6-yl]-(2*H*,4*H*)-1,2,4-triazol-3-thione

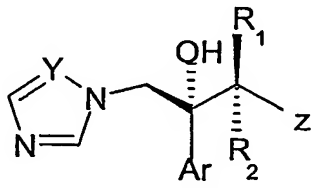
2-[(1R,2R)-2-(2,4-Difluorophenyl)-2-hydroxy-1-methyl-3-(1*H*-1,2,4-triazol-1-yl)propyl]-4-[5-chloro-3-trifluoromethylpyridin-6-yl]-(2*H*,4*H*)-1,2,4-triazol-3-thione

3. A pharmaceutical composition comprising a compound of claims 1 or 2 and a pharmaceutical acceptable carrier.

4. A pharmaceutical composition comprising a pharmaceutically effective amount of a compound according to claims 1 to 3 or a physiologially

acceptable acid additional salt thereof with a pharmaceuitcally acceptable carrier.

5. A method of treating or preventing fungal infection in mammals comprising administering to said mammal a therapeutically effective amount of a compound having the structure of Formula I,



Formula I

and its pharmaceutically acceptable salts, esters, enantiomers, diastereomers, N-oxides, prodrugs, metabolites, polymorphs or pharmaceutically acceptable solvates,

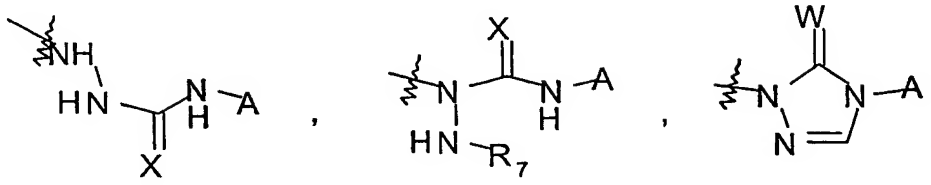
wherein

Ar is phenyl or a substituted phenyl having one to three substituents independently selected from halogen (chlorine, fluorine, bromine, iodine), nitro, cyano, lower(C_{1-4})alkyl, lower(C_{1-4})alkoxy, perhalo lower(C_{1-4})alkyl or perhalo lower(C_{1-4})alkoxy five to seven membered heterocyclic ring containing one to four heteroatoms selected from the group consisting of oxygen, nitrogen and sulphur;

R_1 and R_2 are independently selected from the group consisting of hydrogen, straight chain or branched alkyl groups having 1 to 3 carbon atoms selected from the group consisting of methyl, ethyl, propyl and isopropyl;

Y is CH or N;

Z is selected from the group consisting of



wherein

X is selected from S, O, CH-NO_2, N-CN;

W is selected from S, CH-NO_2, N-CN;

A is hydrogen, unsubstituted or substituted lower (C_{1-10}) alkyl, said substituents being halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4}) alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4}) perhaloalkoxy; optionally substituted naphthyl; unsubstituted or substituted aromatic or non aromatic 5-6 membered rings with or without one to four heteroatoms independently selected from the group consisting of oxygen, nitrogen and sulphur, said substituents independently selected from one or more groups such as halogen (fluorine, chlorine, bromine, iodine), nitro, cyano, hydroxy, lower(C_{1-4})alkyl, lower(C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4})perhaloalkoxy, BR_3, substituted or unsubstituted five or six membered heterocyclic ring systems containing one to four heteroatoms selected from the group consisting of oxygen, nitrogen and sulphur, said heterocycylic substituents being (C_1-C_8)alkanoyl, lower (C_1-C_4)alkyl, lower (C_1-C_4)alkoxy carbonyl, N lower (C_1-C_4)alkylaminocarbonyl, N,N-dilower(C_1-C_4)alkylaminocarbonyl, N-lower (C_1-C_4)alkylaminothiocarbonyl, N,N-di(lower alkyl)(C_1-C_4)aminothiocarbonyl, N-lower (C_1-C_4)alkyl sulphonyl, phenyl substituted lower (C_1-C_4)alkyl sulphonyl, N-lower (C_1-C_4)alkyl amino, N,N-di(lower alkyl)(C_1-C_4)amino, unsubstituted or substituted phenyl, said substituents being halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4}) perhaloalkoxy, nitro, cyano, amino, $N(R_4)_2$, 5-6 membered heterocyclic rings, the preferred heterocycles being 1,3-imidazolyl; 1,2,4 triazolyl; -CHR_5R_6;

wherein

R_3 is a five or six membered aromatic or non aromatic ring with or without heteroatoms selected from (oxygen, nitrogen and sulphur);

B is independently selected from $(CH_2)_m$, -S, $-O(CH_2)_m$, $-S(CH_2)_m$;

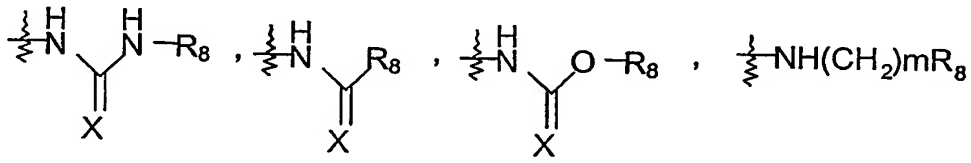
m is an integer from 1 to 4;

R_4 is hydrogen, unsubstituted or substituted lower (C_{1-4})alkyl;

R_5 is –COQ, where Q=OR_4, $-N(R_4)_2$;

R_6 is independently selected from hydrogen, straight chain or branched alkyl with or without substituents, said substituents being halogen (e.g. fluorine, chlorine, bromine or iodine), hydroxy, lower (C_{1-4})alkyl, lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4; phenyl or phenyl substituted with halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4; heterocyclic rings or substituted heterocyclic rings with heteroatoms selected from oxygen, nitrogen and sulphur, substituents on heterocyclic rings are independently selected from halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkyl ,lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4; phenyl or phenyl substituted with halogen (e.g. fluorine, chlorine, bromine or iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy or SR_4; the preferred heterocyclic rings are imidazole and indole;

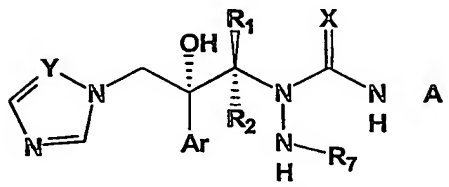
R_7 is H or selected from the group consisting of



wherein

R_8 is independently selected from hydrogen, unsubstituted or substituted lower (C_{1-4}) alkyl, aralkyl, aromatic or non aromatic 5-6 membered rings with or without one to four heteroatoms selected independently from the group consisting of oxygen, nitrogen or sulphur.

6. A process for preparing a compound of Formula X,



Formula X

and its pharmaceutically acceptable salts, esters, enantiomers, diastereomers, N-oxides, prodrugs, metabolites, polymorphs or pharmaceutically acceptable solvates

wherein

Ar is phenyl or a substituted phenyl having one to three substituents independently selected from halogen (chlorine, fluorine, bromine, iodine), nitro, cyano, lower(C_{1-4})alkyl, lower(C_{1-4})alkoxy, perhalo lower(C_{1-4})alkyl or perhalo lower(C_{1-4})alkoxy five to seven membered heterocyclic ring containing one to four heteroatoms selected from the group consisting of oxygen, nitrogen and sulphur;

R_1 and R_2 are independently selected from the group consisting of hydrogen, straight chain or branched alkyl groups having 1 to 3 carbon atoms selected from the group consisting of methyl, ethyl, propyl and isopropyl;

Y is CH or N;

X is selected from S, O, CH-NO_2, N-CN;

A is hydrogen, unsubstituted or substituted lower (C_{1-10}) alkyl, said substituents being halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4}) alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4}) perhaloalkoxy;. optionally substituted naphthyl; unsubstituted or substituted aromatic or non aromatic 5-6 membered rings with or without one to four heteroatoms independently selected from the group consisting of oxygen, nitrogen and sulphur, said

substituents independently selected from one or more groups such as halogen (fluorine, chlorine, bromine, iodine), nitro, cyano, hydroxy, lower(C_{1-4})alkyl, lower(C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4})perhaloalkoxy, BR_3, substituted or unsubstituted five or six membered heterocyclic ring systems containing one to four heteroatoms selected from the group consisting of oxygen, nitrogen and sulphur, said heterocycylic substituents being (C_1-C_8)alkanoyl, lower (C_1-C_4)alkyl, lower (C_1-C_4)alkoxy carbonyl, N lower (C_1-C_4)alkylaminocarbonyl, N,N-dilower(C_1-C_4)alkylaminocarbonyl, N-lower (C_1-C_4)alkylaminothiocarbonyl, N,N-di(lower alkyl)(C_1-C_4)aminothiocarbonyl, N-lower (C_1-C_4)alkyl sulphonyl, phenyl substituted lower (C_1-C_4)alkyl sulphonyl, N-lower (C_1-C_4)alkyl amino, N,N-di(lower alkyl)(C_1-C_4)amino, unsubstituted or substituted phenyl, the said substituents being halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4}) perhaloalkoxy, niro, cyano, amino, $N(R_4)_2$, 5-6 membered heterocyclic rings, the preferred heterocycles being 1,3-imidazolyl; 1,2,4 triazolyl; $-CHR_5R_6$;

wherein

R_3 is a five or six membered aromatic or non aromatic ring with or without heteroatoms selected from (oxygen, nitrogen and sulphur);

B is independently selected from $(CH_2)_m$, -S, $-O(CH_2)_m$, $-S(CH_2)_m$;

m is an integer from 1 to 4;

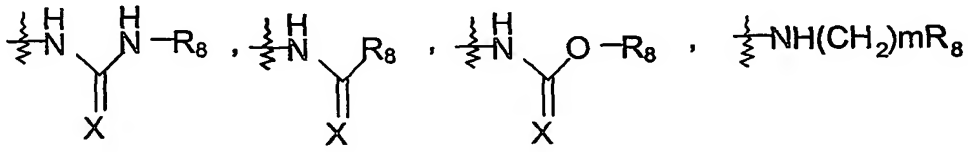
R_4 is hydrogen, unsubstituted or substituted lower (C_{1-4})alkyl;

R_5 is –COQ, where Q=OR_4, $-N(R_4)_2$;

R_6 is independently selected from hydrogen, straight chain or branched alkyl with or without substituents, said substituents being halogen (e.g. fluorine, chlorine, bromine or iodine), hydroxy, lower (C_{1-4})alkyl, lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4; phenyl or phenyl substituted with halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4;

heterocyclic rings or substituted heterocyclic rings with heteroatoms selected from oxygen, nitrogen and sulphur, substituents on heterocyclic rings are independently selected from halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkyl ,lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4; phenyl or phenyl substituted with halogen (e.g. fluorine, chlorine, bromine or iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy or SR_4; the preferred heterocyclic rings are imidazole and indole;

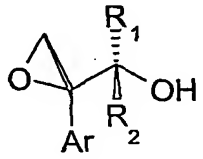
R_7 is H or selected from the group consisting of



wherein

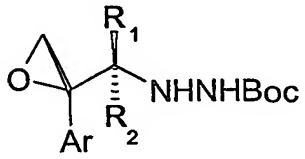
R_8 is independently selected from hydrogen, unsubstituted or substituted lower (C_{1-4}) alkyl, aralkyl, aromatic or non aromatic 5-6 membered rings with or without one to four heteroatoms selected independently from the group consisting of oxygen, nitrogen or sulphur,

which comprises converting the epoxy alcohol of Formula II



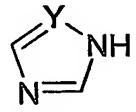
Formula II

to the corresponding triflate derivative, which is further subjected to a nucleophilic substitution with t-butyl carbazate to afford substituted hydrazine of the Formula III



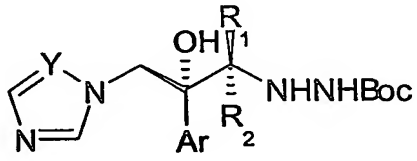
Formula III

with inversion of configuration at C-1, which on reaction with compound of Formula IV,



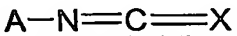
Formula IV

in the presence of a base gives the epoxide ring opened intermediate of the formula V,



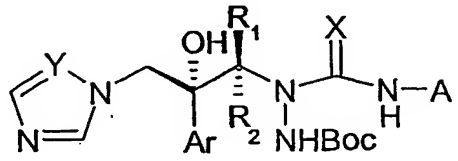
Formula V

which is then treated with the compound of the Formula VI



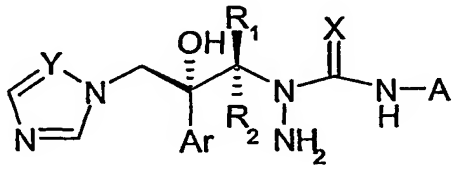
Formula VI

to give the BoC protected semicarbazide or thiosemicarbazide derivatives of the Formula VII,



Formula VII

which is further deprotected using trifluoroacetic acid to give the free amine of Formula VIII,



Formula VIII

which is treated with a compound of Formula IX

Formula IX

to give a compound of Formula X.

7. The process of claim 6 wherein the conversion of the compound of Formula II to the compound of Formula III is carried out in an organic solvent selected from the group consisting of chloroform, dichloromethane, dichloroethane and tetrahydrofuran.

8. The process of claim 6 wherein the nucleophilic epoxide ring opening of the compound of Formula IV is carried out in the presence of a base selected from the group consisting of potassium carbonate, cesium carbonate, calcium carbonate and sodium hydride.

9. The process according to claim 6 wherein the nucleophilic epoxide ring opening of the compound of Formula IV is carried out in a solvent selected from the group consisting of dimethylformamide, dimethylsulfoxide, diethyl ether, tetrahydrofuran, toluene, benzene and mixtures thereof.

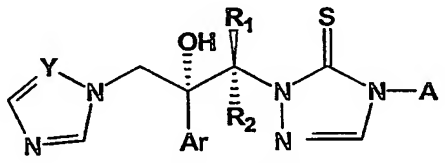
10. The process according to claim 6 wherein the reaction of the compound of Formula V with a compound of Formula VI to give a compound of Formula VII is carried out in an organic solvent selected from the group consisting of chloroform, dichloromethane, dichloroethane, and tetrahydrofuran and mixtures thereof.

11. The process according to claim 6 wherein the deprotection of the Boc group in the compound of Formula VII to give the free amine of Formula VIII is carried out in an organic solvent selected from the group consisting of chloroform, dichloromethane, dichloroethane, tetrahydrofuran and mixtures thereof.

12. The process according to claim 6 wherein the reaction of the compound of Formula VIII with a compound of Formula IX to give a compound of Formula X is carried out in an organic solvent selected from the group consisting of chloroform, dichloromethane, dichloroethane, tetrahydrofuran and mixtures thereof.

13. The process according to claim 6 wherein the reaction of the compound of Formula V with the isothiocyanate of Formula XI is carried out in an organic solvent selected from the group consisting of chloroform, dichloromethane, dichloroethane, tetrahydrofuran and mixtures thereof.

14. A process for preparing a compound of Formula XIII,



Formula XIII

and its pharmaceuitcally acceptable salts, esters, enantiomers, diastereomers, N-oxides, prodrugs, metabolites, polymorphs and pharmaceutically acceptable solvates,

wherein

Ar is phenyl or a substituted phenyl having one to three substituents independently selected from halogen (chlorine, fluorine, bromine, iodine), nitro, cyano, lower(C_{1-4})alkyl, lower(C_{1-4})alkoxy, perhalo lower(C_{1-4})alkyl or perhalo lower(C_{1-4})alkoxy five to seven membered heterocyclic ring containing one to four heteroatoms selected from the group consisting of oxygen, nitrogen and sulphur;

R_1 and R_2 are independently selected from the group consisting of hydrogen, straight chain or branched alkyl groups having 1 to 3 carbon atoms selected from the group consisting of methyl, ethyl, propyl and isopropyl;

Y is CH or N;

A is hydrogen, unsubstituted or substituted lower (C_{1-10}) alkyl, said substituents being halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4}) alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4}) perhaloalkoxy; optionally substituted naphthyl; unsubstituted or substituted aromatic or non aromatic 5-6 membered rings with or without one to four heteroatoms independently selected from the group consisting of oxygen, nitrogen and sulphur, the said substituents independently selected from one or more groups such as halogen (fluorine, chlorine, bromine, iodine), nitro, cyano, hydroxy, lower(C_{1-4})alkyl, lower(C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4})perhaloalkoxy, BR_3, substituted or unsubstituted five or six membered heterocyclic ring systems containing one to four heteroatoms selected from the group consisting of oxygen, nitrogen and sulphur, said heterocycylic substituents being (C_1-C_8)alkanoyl, lower (C_1-C_4)alkyl, lower (C_1-C_4)alkoxy carbonyl, N lower (C_1-C_4)alkylaminocarbonyl, N,N-dilower(C_1-C_4)alkylaminocarbonyl, N-lower (C_1-C_4)alkylaminothiocarbonyl, N,N-di(lower alkyl)(C_1-C_4)aminothiocarbonyl, N-lower (C_1-C_4)alkyl sulphonyl, phenyl substituted lower (C_1-C_4)alkyl sulphonyl, N-lower (C_1-C_4)alkyl amino, N,N-di(lower alkyl)(C_1-C_4)amino, unsubstituted or substituted phenyl, the said substituents being halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4}) perhaloalkoxy, niro, cyano, amino, $N(R_4)_2$, 5-6 membered heterocyclic rings, the preferred heterocycles being 1,3-imidazolyl; 1,2,4 triazolyl; -CHR_5R_6;

wherein

R_3 is a five or six membered aromatic or non aromatic ring with or without heteroatoms selected from (oxygen, nitrogen and sulphur);

B is independently selected from $(CH_2)_m$, -S, $-O(CH_2)_m$, $-S(CH_2)_m$;

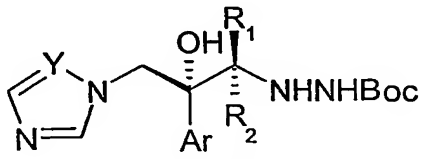
m is an integer from 1 to 4;

R_4 is hydrogen, unsubstituted or substituted lower (C_{1-4})alkyl;

R_5 is –COQ, where Q=OR_4, $-N(R_4)_2$;

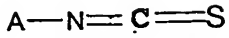
R_6 is independently selected from hydrogen, straight chain or branched alkyl with or without substituents, said substituents being halogen (e.g. fluorine, chlorine, bromine or iodine), hydroxy, lower (C_{1-4})alkyl, lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4; phenyl or phenyl substituted with halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4; heterocyclic rings or substituted heterocyclic rings with heteroatoms selected from oxygen, nitrogen and sulphur, substituents on heterocyclic rings are independently selected from halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkyl ,lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4; phenyl or phenyl substituted with halogen (e.g. fluorine, chlorine, bromine or iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy or SR_4; the preferred heterocyclic rings are imidazole and indole,

which comprises treating the compound of formula V



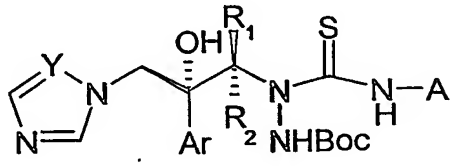
Formula V

with the isothiocyanate of Formula XI



Formula XI

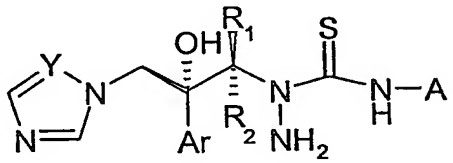
and the resulting BoC derivatives of Formula XII



Formula XII

is refluxed with formic acid to give the desired compound of Formula XIII,

or alternatively, treating the compound of Formula XII with trifluoroacelic acid to get the free amine of Formula XIV,



Formula XIV

which upon refluxing with formic acid gives the compound of Formula XIII.

15. The process according to Claim 14 wherein the reaction of the compound of Formula V with isothiocyanate of Formula XI is carried out in an organic solvent.

16. The process according to Claim 15 wherein the organic solvent is selected from the group consisting of chloroform, dichloromethane, dichloroethane, tetrahydrofuran and mixtures thereof.

17. The process according to Claim 14 wherein the deprotectioin of the BoC group in the compound of Formula XII to give the free amine of Formula XIV is carried out in an organic solvent.

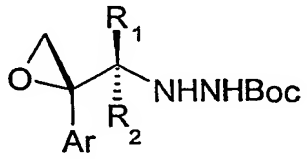
18. The process according to Claim 17 wherein the organic solvent is selected from the group consisting of chloroform, dichloromethane, dichloroethane, tetrahydrofuran and mixtures thereof.

19. The process according to Claim 17 wherein the BoC deprotection of the compound of Formula XII is carried out in the presence of trifluroacetic acid (TFA).

20. The process according to Claim 14 wherein the ring cyclization of the compound of Formula XII or its free amine of Formula XIV is carried out in the presence of formic acid.

21. The process according to Claim 20 wherein the ring cyclization is carried out at a temperature ranging from about 80-120°C.

22. A compound having the structure of of Formula III

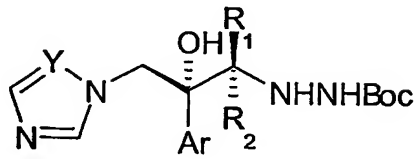


Formula III

wherein Ar is phenyl or a substituted phenyl having one to three substituents independently selected from halogen (chlorine, fluorine, bromine, iodine), nitro, cyano, lower(C_{1-4})alkyl, lower(C_{1-4})alkoxy, perhalo lower(C_{1-4})alkyl or perhalo lower(C_{1-4})alkoxy five to seven membered heterocyclic ring containing one to four heteroatoms selected from the group consisting of oxygen, nitrogen and sulphur; and

R_1 and R_2 are independently selected from the group consisting of hydrogen, straight chain or branched alkyl groups having 1 to 3 carbon atoms selected from the group consisting of methyl, ethyl, propyl and isopropyl.

23. A compound having the structureof Formula V



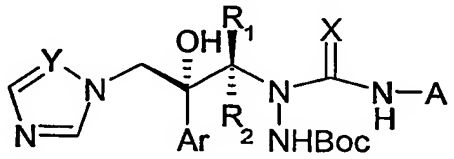
Formula V

wherein Ar is phenyl or a substituted phenyl having one to three substituents independently selected from halogen (chlorine, fluorine, bromine, iodine), nitro, cyano, lower(C_{1-4})alkyl, lower(C_{1-4})alkoxy, perhalo lower(C_{1-4})alkyl or perhalo lower(C_{1-4})alkoxy five to seven membered heterocyclic ring containing one to four heteroatoms selected from the group consisting of oxygen, nitrogen and sulphur;

R_1 and R_2 are independently selected from the group consisting of hydrogen, straight chain or branched alkyl groups having 1 to 3 carbon atoms selected from the group consisting of methyl, ethyl, propyl and isopropyl; and

Y is CH or N.

24. A compound having the structure of Formula VII



Formula VII

wherein Ar is phenyl or a substituted phenyl having one to three substituents independently selected from halogen (chlorine, fluorine, bromine, iodine), nitro, cyano, lower(C_{1-4})alkyl, lower(C_{1-4})alkoxy, perhalo lower(C_{1-4})alkyl or perhalo lower(C_{1-4})alkoxy five to seven membered heterocyclic ring containing one to four heteroatoms selected from the group consisting of oxygen, nitrogen and sulphur;

R_1 and R_2 are independently selected from the group consisting of hydrogen, straight chain or branched alkyl groups having 1 to 3 carbon atoms selected from the group consisting of methyl, ethyl, propyl and isopropyl;

Y is CH or N;

A is hydrogen, unsubstituted or substituted lower (C_{1-10}) alkyl, said substituents being halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4}) alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4}) perhaloalkoxy; optionally substituted naphthyl; unsubstituted or substituted aromatic or non aromatic 5-6 membered rings with or without one to four heteroatoms independently selected from the group consisting of oxygen, nitrogen and sulphur, said substituents independently selected from one or more groups such as halogen (fluorine, chlorine, bromine, iodine), nitro, cyano, hydroxy, lower (C_{1-4}) alkyl, lower(C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4}) perhaloalkoxy, BR_3, substituted or unsubstituted five or six membered heterocyclic ring systems containing one to four heteroatoms selected from the group consisting of oxygen, nitrogen and sulphur, said heterocycylic substituents being (C_1-C_8)alkanoyl, lower (C_1-C_4)alkyl, lower (C_1-C_4)alkoxy carbonyl, N lower (C_1-C_4)alkylaminocarbonyl, N,N-dilower(C_1-C_4)alkylaminocarbonyl, N-lower (C_1-C_4)alkylaminothiocarbonyl, N,N-di(lower alkyl)(C_1-C_4)aminothiocarbonyl, N-lower (C_1-C_4)alkyl sulphonyl, phenyl substituted lower (C_1-C_4)alkyl sulphonyl, N-lower (C_1-C_4)alkyl amino, N,N-di(lower alkyl)(C_1-C_4)amino, unsubstituted or substituted phenyl, said substituents being halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4}) perhaloalkoxy, nitro, cyano, amino, $N(R_4)_2$, 5-6 membered heterocyclic rings, the preferred heterocycles being 1,3-imidazolyl; 1,2,4 triazolyl; $-CHR_5R_6$;

wherein

R_3 is a five or six membered aromatic or non aromatic ring with or without heteroatoms selected from the group consisting of oxygen, nitrogen and sulphur;

B is independently selected from $(CH_2)_m$, -S, $-O(CH_2)_m$, $-S(CH_2)_m$;

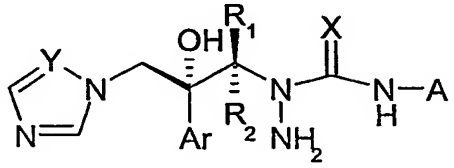
m is an integer from 1 to 4;

R_4 is hydrogen, unsubstituted or substituted lower (C_{1-4})alkyl;

R_5 is –COQ, where Q=OR_4, -$N(R_4)_2$; and

R_6 is independently selected from hydrogen, straight chain or branched alkyl with or without substituents, the said substituents being halogen (e.g. fluorine, chlorine, bromine or iodine), hydroxy, lower (C_{1-4})alkyl, lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4; phenyl or phenyl substituted with halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4; heterocyclic rings or substituted heterocyclic rings with heteroatoms selected from oxygen, nitrogen and sulphur, substituents on heterocyclic rings are independently selected from halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkyl ,lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4; phenyl or phenyl substituted with halogen (e.g. fluorine, chlorine, bromine or iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy or SR_4; the preferred heterocyclic rings are imidazole and indole.

25. A compound having the structure of Formula VIII



Formula VIII

wherein Ar is phenyl or a substituted phenyl having one to three substituents independently selected from halogen (chlorine, fluorine, bromine, iodine), nitro, cyano, lower(C_{1-4})alkyl, lower(C_{1-4})alkoxy, perhalo lower(C_{1-4})alkyl or perhalo lower(C_{1-4})alkoxy five to seven membered heterocyclic ring containing one to four heteroatoms selected from the group consisting of oxygen, nitrogen and sulphur;

R_1 and R_2 are independently selected from the group consisting of hydrogen, straight chain or branched alkyl groups having 1 to 3 carbon atoms selected from the group consisting of methyl, ethyl, propyl and isopropyl;

Y is CH or N;

X is selected from S, O, CH-NO_2, and N-CN;

A is hydrogen, unsubstituted or substituted lower (C_{1-10}) alkyl, said substituents being halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4}) alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4}) perhaloalkoxy; optionally substituted naphthyl; unsubstituted or substituted aromatic or non aromatic 5-6 membered rings with or without one to four heteroatoms independently selected from the group consisting of oxygen, nitrogen and sulphur, said substituents independently selected from one or more groups such as halogen (fluorine, chlorine, bromine, iodine), nitro, cyano, hydroxy, lower (C_{1-4}) alkyl, lower(C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4}) perhaloalkoxy, BR_3, substituted or unsubstituted five or six membered heterocyclic ring systems containing one to four heteroatoms selected from the group consisting of oxygen, nitrogen and sulphur, said heterocycylic substituents being (C_1-C_8)alkanoyl, lower (C_1-C_4)alkyl, lower (C_1-C_4)alkoxy carbonyl, N lower (C_1-C_4)alkylaminocarbonyl, N,N-dilower(C_1-C_4)alkylaminocarbonyl, N-lower (C_1-C_4)alkylaminothiocarbonyl, N,N-di(lower alkyl)(C_1-C_4)aminothiocarbonyl, N-lower (C_1-C_4)alkyl sulphonyl, phenyl substituted lower (C_1-C_4)alkyl sulphonyl, N-lower (C_1-C_4)alkyl amino, N,N-di(lower alkyl)(C_1-C_4)amino, unsubstituted or substituted phenyl, said substituents being halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4}) perhaloalkoxy, nitro, cyano, amino, $N(R_4)_2$, 5-6 membered heterocyclic rings, the preferred heterocycles being 1,3-imidazolyl; 1,2,4 triazolyl; -CHR_5R_6;

wherein

R_3 is five or six membered aromatic or non aromatic ring with or without heteroatoms selected from the group consisting of oxygen, nitrogen and sulphur;

B is independently selected from $(CH_2)_m$, -S, $-O(CH_2)_m$, $-S(CH_2)_m$;

m is an integer from 1 to 4;

R_4 is hydrogen, unsubstituted or substituted lower (C_{1-4})alkyl;

R_5 is –COQ, where Q=OR_4, $-N(R_4)_2$; and

R_6 is independently selected from hydrogen, straight chain or branched alkyl with or without substituents, the said substituents being halogen (e.g. fluorine, chlorine, bromine or iodine), hydroxy, lower (C_{1-4})alkyl, lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4; phenyl or phenyl substituted with halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4}) perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4; heterocyclic rings or substituted heterocyclic rings with heteroatoms selected from oxygen, nitrogen and sulphur, substituents on heterocyclic rings are independently selected from halogen (fluorine, chlorine, bromine, iodine), hydroxy, lower (C_{1-4})alkyl ,lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy, SR_4; phenyl or phenyl substituted with halogen (e.g. fluorine, chlorine, bromine or iodine), hydroxy, lower (C_{1-4})alkoxy, lower (C_{1-4})perhaloalkyl, lower (C_{1-4})perhaloalkoxy or SR_4; the preferred heterocyclic rings are imidazole and indole.